

20 March 1957

MEMORANDUM FOR: THE RECORD

SUBJECT : Visit to [REDACTED]

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1. Time and Place: This meeting was held 14 March 1957 in [REDACTED]

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2. Attendance: [REDACTED]

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3. Discussion:

a. P 77. [REDACTED] briefly discussed the WD-105 form to be submitted in connection with the extension of AD 61, Task "B" for the twelve month period starting 1 May 1957. He pointed out that increased labor costs estimated at 12% would increase their proposal slightly bringing the total cost of this project to slightly more than \$400,000.00. This proposal will be forthcoming the week of 18 March 1957.

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b. P 161B. [REDACTED] was instructed to proceed on the suitcase installation of four ST-2 transmitters with two more ST-2's to be used as spares. [REDACTED] will change to more reliable type transistors in these units and make an effort to minimize hum and noise. Frequencies of five of the ST-2 units will be [REDACTED] the 6th (spare unit) will repeat one of the five frequencies. The [REDACTED] probe mike, 200' of fine mike wire and pre amp will be furnished by others for each of the four transmitters assembled in the suitcase which leaves [REDACTED] to coordinate their modification of the ST-2 accordingly. [REDACTED] will construct one "J" type antenna for test purposes, the remaining antennas to be furnished by others. [REDACTED] will investigate the possibility of furnishing requirements from the ST-2 which [REDACTED] feels can be done by adding additional decoupling to the existing ST-2 circuit.

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A voltage regulator for 50 cps 220V will be made up by modifying a 'Solar' voltage regulating transformer. Seven ST-2 transmitters and one [REDACTED] probe type microphone were delivered to [REDACTED] for this task.

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[ ] felt that the necessary modifications to the six ST-2 transmitters, which were delivered to [ ] at this time, could be made and the system completed by 1 April 1957.

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c. P-163B: Battery Operated ST-2 for [ ]  
[ ] has this special version of the ST-2 about completed. In answer to their inquiry, they were told to furnish a mike lead of from 5' to 6' in length. It was tentatively decided to use an RCA-BK 6B mike which the contractor has on hand.

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d. P-193: [ ] pointed out that their original proposal on the RT-2 and their subsequent contract did not include the power supply. An amendment will be requested with a slight increase in the overall cost of this project to furnish one power supply per transmitter unit.

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An inquiry was made as to the type of power terminals to be furnished. It was decided that no terminal as such would be provided but wire leads of 1' to 2' in length would be adequate assuming that the wires would be installed in such a manner as to prevent them from being pulled loose.

e. P-101E: Gibson Modulator Work on the Gibson Modulator has been progressing very slowly since the employee who started this project is no longer with [ ]. This former employee is however available on a consulting basis should the need arise. Six breadboard models have been made with only one showing any promise, and that one required a 100 watt source of Infra Red to give any indication of modulation. [ ] is attempting to evaluate this project as it now stands in order to decide on a future course of action.

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f. P-125C: Camera Sequence, Self Actuating. A modification of this device was discussed which would allow the passage of one day to be recorded on the film. The device suggested by [ ] consisting of a neon lamp which would be actuated by the rising photomultiplier cell was described to [ ]. A date of 4 April was given to [ ] for completion of this task.

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After some discussion it seemed that it might be more feasible to eliminate the neon lamp indication and merely trigger off one extra 3 minute cycle when the light intensity diminished to a predetermined level.

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g. P-153: Triggering Device Optical [ ] discussed the possible reasons for the poor performance of one of the two triggering devices furnished to APD/CB. He felt that the trouble was in the last stage transistor which probably developed too much gain. He asked that the device be sent back for examination.

h. FTI: [ ] Transmitter Receivers. The functioning of this device as observed in tests made at APD was discussed including the effects on [ ] transmission.

[ ] was asked to investigate the possibility of using chokes or filters to prevent the [ ] from being affected by the carrier.

[ ] was asked to explore the possibility of using a frequency such that its detection would be difficult due to masking of the transmission by the signal of a local broadcasting station.

[ ] gave as a discussion on three related systems all of which were [ ] systems which made use of the [ ] to return an audio signal to [ ]. The difference in the three systems was in the means the audio amplifier obtained its power. Particular encouragement was given to the system which received its entire power requirement for the audio amplifier from a 25KC (or higher) carrier and thus was independent of batteries and could be turned on and off from [ ]. The contractor was encouraged to pay particular attention to reliability in the design of components in order to capitalize on the advantage offered by this relatively simple system.

A copy of a description furnished by the contractor of these three systems is attached to this memorandum.

A demonstration of the basic idea of these [ ] systems was given which featured the use of the 10 db transistorized kit preamplifier as a receiver. One system described as "Dual Control System" was hand carried back to APD.

i. General: [ ] discussed a proposal for the storage of audio information on photographic film. It was felt that this device would be potentially capable of storing 30 minutes audio information on one 35mm frame. Basically the device would be an audio modulated light source which scans a photo sensitized surface through two fine, non-parallel slits cut in rapidly revolving drums.

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[REDACTED] has developed a transistorized FM paging receiver for [REDACTED] which is fully selective due to a vibrating reed decoding device (mfg & furnished by [REDACTED]). This receiver could be adapted to our use as a warning device or for other purposes. It has a battery life of 60 hours. It includes its own antenna which is a "top hat" that fits the end of the small rectangular shaped box which houses the receiver. The receiver is omni directional and works well when carried in the pocket.

Henceforth all transistorized units furnished by [REDACTED] will have "aged" transistors to increase reliability. The aging consists of a 10 day cycling period in the oil bath chamber with readings of Beta and Icc being measured a total of three times during this period. A memorandum on Baird's findings regarding transistor reliability will be sent to us the week of 13 March.

J. AH-43: [REDACTED] At present there is only one man available to work on this project. Not much progress has been made lately. Question of priority of this project was raised by [REDACTED] which was not specifically answered pending further evaluation within APD & ED.

K. Image Recognition System A report on this project was hand carried back to APD.

## Distribution

Orig - P-77  
 1 - P-101K  
 1 - P-125C  
 1 - P-163B  
 1 - P-183  
 1 - P-193  
 1 - AH-43  
 1 - Chrono

TCS/APD/HHS/cb